



INTEGRAL-BONNET NEEDLE VALVES

HAM-LET H-300U SERIES



- ✓ Working pressures up to 5,000 psig (345 bar)
- ✓ Stainless steel and brass construction
- ✓ Fugitive Emissions Free ISO15848 certified



FEATURES

- Fugitive Emissions Free ISO15848 certified
- Straight and angle pattern
- Stainless steel and brass body construction
- MAWP¹ 5000 psi (345 bar)
- MAWT² 446°F (230°C)
- Flow coefficient (Cv) 0.09 to 1.8
- Sizes: 1/8" to 3/4" and 3mm-12mm
- Round plastic, round aluminum, and metal bar handles
- Variety of stem types
- Packing bolt for easy panel mounting
- No packing disassembly is required
- Chevron stem packing provides low operation torques
- Belleville washers compensate packing wear
- Special synthetic, anti-seize stem lubricant for resistance to high temperature

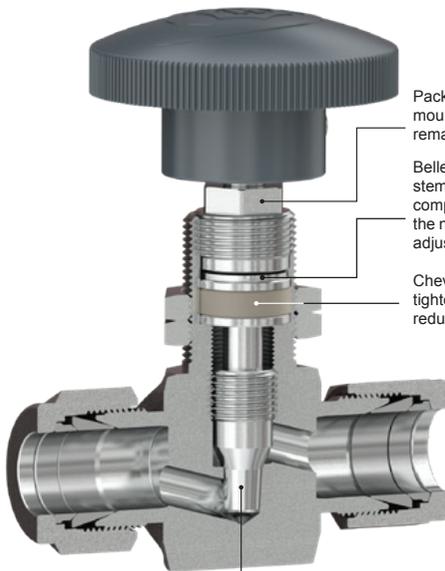
¹Maximum allowed working pressure

²Maximum allowed working temperature

MATERIALS OF CONSTRUCTION

No.	Component	Qty.	Material
1	Handle	1	Phenolic
2	Set screw	1	SST 316
3	Packing bolt	1	SST 316
4	Belleville washer	2	SST 302
5	Gland ³	2	SST 316
6	Upper packing	1	PTFE
7	Bottom packing	1	PTFE
8	A Regulating stem ³	1	SST 316 with surface treatment
	B V-stem ³	1	SST 316 with surface treatment
	C Non-rotating stem ³	1	SST 316 with surface treatment
	D Soft seat stem ³	1	SST 316 with surface treatment
9	Panel nut	2	SST 316
10	Body ³	1	SST 316
	Lubricant		Silicone based

³Wetted parts

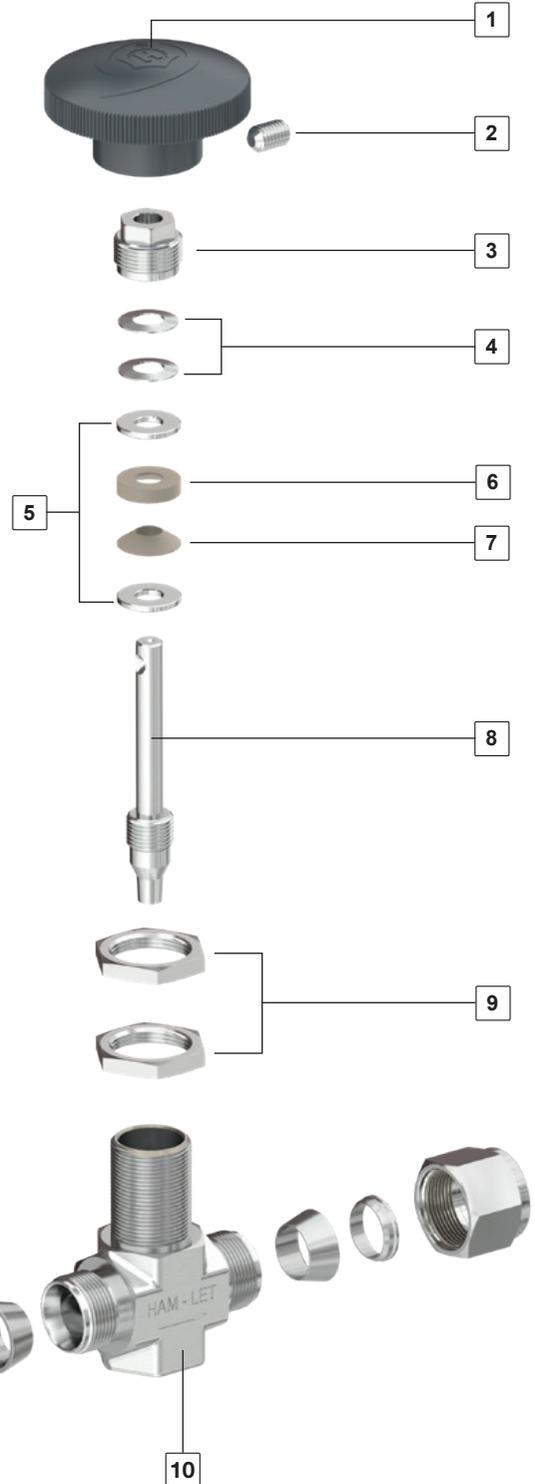


Packing Bolt enables easy mounting with the packing remaining unexposed

Belleville Washers spring-load the stem packing to thereby compensate for wear, and reduce the need for packing adjustments

Chevron Packing reduces packing bolt tightening torque, consequentially reducing valve operating torque

Stem Diffusion Surface Hardening provides the best galling resistance and protection from wear and corrosion



GENERAL

The H-300U Series is an advanced high-pressure instrumentation needle valve for regulating service. The packing bolt design, featuring easy mounting, provides the best solution for instrumentation panels.

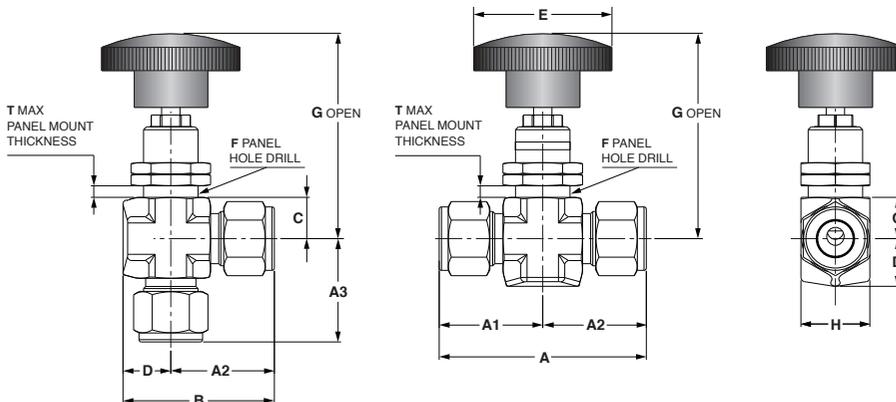
This compact valve enables a relatively high level of flow regulation and long-life service. Special stem surface treatment, based on low temperature carbon diffusion, enables higher surface hardness with improved wear resistance, resistance to system contaminants and low operational torque.

STANDARD CONFIGURATION DIMENSIONS

Basic Ordering Number	Orifice mm (in) S/A	Cv	Connection Size		A		A1		A2		A3		B		C	D	E	F	G	H	T max
			Inlet	Outlet	mm	in	mm	in	mm	in	mm	in	mm	in	mm (in)	mm (in)					
H-300	2.0 (0.08)	0.09	3mm LET-LOK	3mm LET-LOK	50.8	2.00	25.4	1.00	25.4	1.00	25.4	1.00	33.4	1.31	10.0 (0.39")	7.95 (0.31")	35.1 (1.38")	13.0 (0.51")	63.5 (2.50")	15.9 (5/8")	10.0 (0.39")
H-300			1/8" LET-LOK	1/8" LET-LOK	50.8	2.00	25.4	1.00	25.4	1.00	25.4	1.00	33.4	1.31							
H-395			1/8" MNPT	1/8" LET-LOK	45.3	1.78	19.9	0.78	25.4	1.00	19.9	0.78	33.4	1.31							
H-300	4.4 (0.172)	0.37	1/4" LET-LOK	1/4" LET-LOK	58.8	2.31	29.4	1.16	29.4	1.16	29.4	1.16	37.3	1.47	10.0 (0.39")	7.95 (0.31")	35.1 (1.38")	13.0 (0.51")	63.5 (2.50")	15.9 (5/8")	10.0 (0.39")
H-300			6mm LET-LOK	6mm LET-LOK	58.8	2.31	29.4	1.16	29.4	1.16	29.4	1.16	37.3	1.47							
H-300			8mm LET-LOK	8mm LET-LOK	58.8	2.31	29.4	1.16	29.4	1.16	29.4	1.16	37.3	1.47							
H-310			1/8" FNPT	1/8" FNPT	41.2	1.62	20.6	0.81	20.6	0.81	20.6	0.81	28.5	1.12							
H-380			1/8" MNPT	1/8" MNPT	50.8	2.00	25.4	1.00	25.4	1.00	25.4	1.00	33.3	1.31							
H-380			1/4" MNPT	1/4" MNPT	50.8	2.00	25.4	1.00	25.4	1.00	25.4	1.00	33.3	1.31							
H-395			1/4" MNPT	1/4" LET-LOK	54.8	2.16	25.4	1.00	29.4	1.16	25.4	1.00	37.3	1.47							
H-300	6.4 (0.25)	0.73	3/8" LET-LOK	3/8" LET-LOK	66.0	2.60	33.0	1.30	33.0	1.30	33.0	1.30	49.5	1.95	14.3 (0.56")	16.5 (0.65")	47.8 (1.88")	20.0 (0.79")	78.4 (3.09")	23.8 (15/16")	12.0 (0.49")
H-300			10mm LET-LOK	10mm LET-LOK	66.4	2.62	33.2	1.31	33.2	1.31	33.2	1.31	49.7	1.96							
H-300			1/2" LET-LOK	1/2" LET-LOK	71.6	2.82	35.8	1.41	35.8	1.41	35.8	1.41	52.3	2.06							
H-300			12mm LET-LOK	12mm LET-LOK	71.6	2.82	35.8	1.41	35.8	1.41	35.8	1.41	52.3	2.06							
H-310			1/4" FNPT	1/4" FNPT	54.0	2.12	27.0	1.06	27.0	1.06	27.0	1.06	43.5	1.71							
H-380			3/8" MNPT	3/8" MNPT	57.0	2.24	28.5	1.12	28.5	1.12	28.5	1.12	45.0	1.77							
H-385			1/4" MNPT	1/4" FNPT	58.5	2.30	31.5	1.24	27.0	1.06	28.5	1.12	43.5	1.71							
H-385			3/8" MNPT	3/8" FNPT	56.5	2.22	28.5	1.12	28.0	1.10	28.5	1.12	44.5	1.75							
H-395			3/8" MNPT	3/8" LET-LOK	61.5	2.42	28.5	1.12	33.0	1.30	28.5	1.12	49.5	1.95							
H-300			9.5 (0.375)	1.8	3/4" LET-LOK	3/4" LET-LOK	97.0	3.82	48.5	1.91	48.5	1.91	48.5	1.91							
H-310	3/8" FNPT	3/8" FNPT			76.2	3.00	38.1	1.50	38.1	1.50	38.1	1.50	58.1	2.29							
H-310	1/2" FNPT	1/2" FNPT			76.2	3.00	38.1	1.50	38.1	1.50	38.1	1.50	58.1	2.29							
H-310	3/4" FNPT	3/4" FNPT			36.0	3.78	48.0	1.89	48.0	1.89	-	-	-	-							
H-380	1/2" MNPT	1/2" MNPT			76.2	3.00	38.1	1.50	38.1	1.50	38.1	1.50	58.1	2.29							
H-380	3/4 MNPT	3/4 MNPT			76.2	3.00	38.1	1.50	38.1	1.50	-	-	-	-							
H-385	1/2" MNPT	1/2" FNPT			76.2	3.00	38.1	1.50	38.1	1.50	38.1	1.50	58.1	2.29							

Dimensions are for reference only and are subject to change without notice.

¹Dimensions for metal handle option



STEM OPTIONS

H-300U needle valves are available with a choice of stem tips:



8A Regulating:

Used where some degree of flow control is required.



8B V-Stem:

Standard stem tip used for the on/off operation in general purpose liquids and gas service.



8C Non-Rotating Stem:

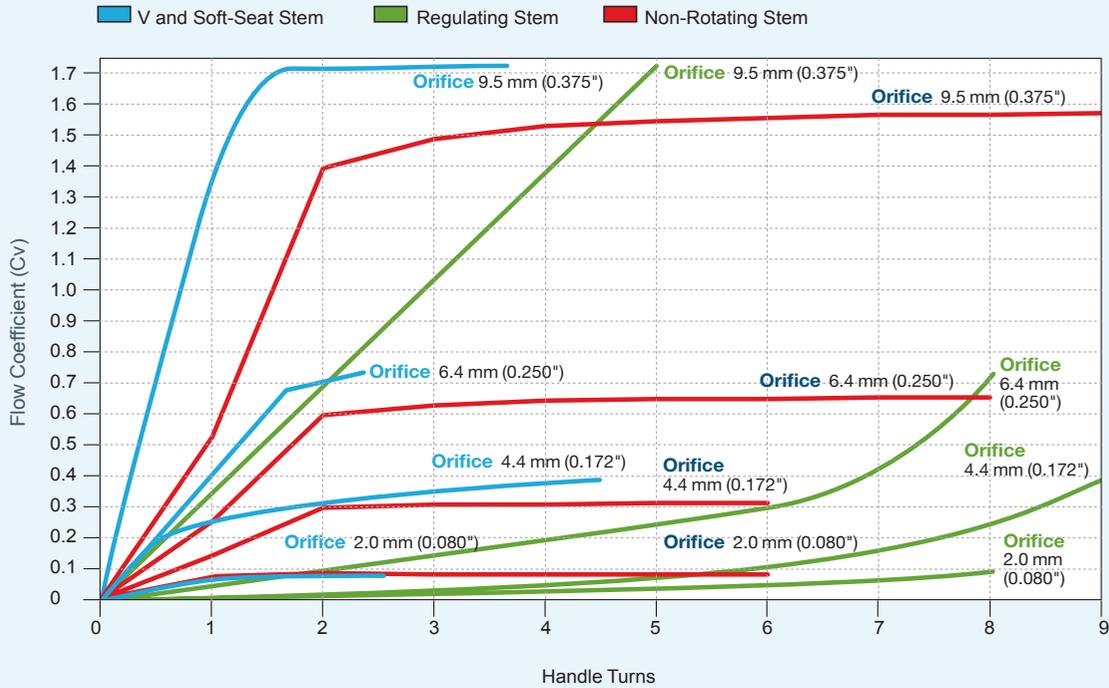
Typically used in high-cycle applications to extend valve life and prevent stem rotation inside the body tip, a suitable selection for gaseous high-pressure applications.



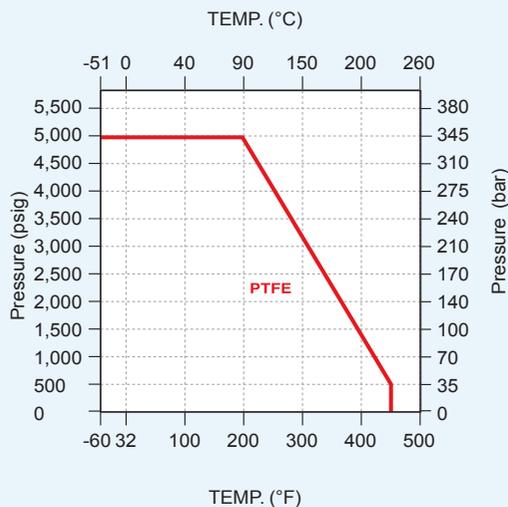
Soft Seat Stem (PTFE)

A soft seat tip requires a lower sitting torque than a metal stem tip. The best choice for clean gaseous high pressure applications; MAWT is 200°F (93°C).

FLOW DATA: FLOW COEFFICIENT VS. HANDLE TURNS



PRESSURE TEMPERATURE RATING



TECHNICAL DATA

The following table contains the temperature and pressure ratings for a standard valve with PTFE packing.

Body Material	Stem Type	Rating	
		Temperature	Pressure
316 SST	All SST stems	-51°C to 230°C (-60°F to 446°F)	5000 psi
	PCTFE	-46°C to 93°C (-51°F to 200°F)	5000 psi
Brass	Regulating & v-stem	-46°C to 200°C (-51°F to 392°F)	3000 psi
	PCTFE	-46°C to 93°C (-51°F to 200°F)	3000 psi

* Extreme temperature fluctuations may require packing adjustment.

Notes:

- The H-300U was designed for high-pressure services where moderately uncontaminated media is used
- For steam applications, it is recommended to select one of Ham-Let's severe service needle valves
- For oxygen applications, select the oxygen clean treatment option
- For relatively high-pressure pure oxygen applications, assure that the selected valve is tested and found to meet the specific application requirements

CLEANING & PACKAGING

Every H-300U series needle valve is cleaned in accordance with Standard Cleaning and Packaging (Procedure 8184). Oxygen Clean & Lubricant-Free Cleaning and Packaging in accordance with Special Cleaning and Packaging (Procedure 8185), is available as an option.

⚠ **Lubricant-free cleaned valves have significantly higher actuation torque.**

TESTING

The H-300U Series Needle Valve design has been tested for proof and burst. Every H-300U Needle Valve is factory tested with nitrogen at 1000 psi (69 bar) for leakage through the packing and seat.

The maximum allowable leakage across the seat is 0.1 std cc/min. No detectable leakage is allowed during shell test.

PACKING ADJUSTMENT

Due to the varied service applications of the valve, packing adjustment may occasionally be necessary. Packing is factory adjusted to 1000 psig service.

⚠ **Initial packing adjustment is recommended after installation and prior to start-up.**

ORDERING INFORMATION H-300U SERIES

OPTIONAL

H-3 00U - SS - L - V - 1/4 - RS -

Valve Series	Valve Type	End Connection Type	Stem Designator	End Connection Size	Handle Type	Pattern Designator	Treatment
H-3	00 LET-LOK end	L LET-LOK	V V stem	1/8" 3 mm	RS Black plastic	Blank Straight	Blank Standard cleaning & passivation
00U	10 Female end	N NPT	R Regulating stem	1/4" 6 mm	RAS Black aluminum	A Angle	OC Oxygen clean
SS	15 Female to male end	R ISO tapered	K Soft seat PCTFE stem	3/8" 8 mm	RAR Red aluminum		LF Lubricant free
L	80 Male end	NL NPT to LET-LOK	NR Non-rotating stem	1/2" 10 mm	RAB Blue aluminum		SF Silicone free
V	85 Male to female end	HL Single ferrule		3/4" 12 mm	RAG Green aluminum		
1/4	95 Male to LET-LOK	G ISO parallel			RAY Yellow aluminum		
RS		GL Face seal ends			M Metal bar SS316		

Spare Round-Handle Kits are available for each valve.



SPARE KITS

Series	End Size	Seal Kit ¹	Handle Kit ²
H-380U	1/8, 1/4"	Z-300U-SK-1/4-P	Z-300U-HK-1/4- <input type="checkbox"/>
	3/8"	Z-300U-SK-1/2-P	Z-300U-HK-1/2- <input type="checkbox"/>
	1/2", 3/4"	Z-300U-SK-3/4-P	Z-300U-HK-3/4- <input type="checkbox"/>
H-310U Female to Female	1/8"	Z-300U-SK-1/4-P	Z-300U-HK-1/4- <input type="checkbox"/>
	1/4"	Z-300U-SK-1/2-P	Z-300U-HK-1/2- <input type="checkbox"/>
	3/8", 1/2"	Z-300U-SK-3/4-P	Z-300U-HK-3/4- <input type="checkbox"/>
H-395U Male to LET-LOK	1/8, 1/4"	Z-300U-SK-1/4-P	Z-300U-HK-1/4- <input type="checkbox"/>
	3/8"	Z-300U-SK-1/2-P	Z-300U-HK-1/2- <input type="checkbox"/>
H-385U Male to Female	1/4"	Z-300U-SK-1/2-P	Z-300U-HK-1/2- <input type="checkbox"/>
	3/8"	Z-300U-SK-1/2-P	Z-300U-HK-1/2- <input type="checkbox"/>
	1/2"	Z-300U-SK-3/4-P	Z-300U-HK-3/4- <input type="checkbox"/>
H-300U LET-LOK	1/8", 1/4", 3 mm, 6 mm, 8 mm	Z-300U-SK-1/4-P	Z-300U-HK-1/4- <input type="checkbox"/>
	3/8", 1/2", 10 mm, 12 mm	Z-300U-SK-1/2-P	Z-300U-HK-1/2- <input type="checkbox"/>
	3/4"	Z-300U-SK-3/4-P	Z-300U-HK-3/4- <input type="checkbox"/>

¹Seal Kit contains packing and packing instructions.

²Handle Kit contains handle and set screw.

Handle type per "How to Order"

WARNING!

The system designer and user have the sole responsibility for selecting products suitable for their special application requirements, ensuring their safe and trouble-free installation, operation, and maintenance. Application details, material compatibility and product ratings should all be considered for each selected product. Improper selection, installation or use of products can cause property damage or personal injury.

